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an ARBOREAL GUIDE of SCARBOROUGH POND

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Footbridge at the eastern end of Scarborough Pond

INTRODUCTION

This Arboreal Guide to Scarborough Pond is a companion volume to An Arboreal Guide to The Wilderness which the Franklin Park Coalition published in April of 1979. Both Guides were researched and written by Ida Hay of the staff of the Arnold Arboretum.

The present Guide came about when Ms. Hay designed a walking tour of the Scarborough Pond area for the Arboretum's fall program series; the tour was held on October 29, 1980.

Scarborough Pond was not part of the original plan of Franklin Park of 1885. When Frederick Law Olmsted designed the Park, the site was simply part of the huge country park meadow similar to Ellicott Dale. In 1890 - after the Park had been under construction for 5 years - a petition by over 60 Bostonians requesting a pond for Franklin Park was received by the Park Commissioners. Olmsted was asked to begin work on a study for a pond site. A Revised General Plan of Franklin Park was printed the next year.*

The first white settler to own the land was John Scarborough, one of the first colonists of Roxbury (then a separate town from Boston) in 1640. The Scarborough family had died out by the time the city of Boston purchased the land for Franklin Park beginning in 1881. The land of Scarborough Pond was then owned by Andrew J. Peters and John Galvin. The land totalled about 12 acres. Galvin had a large house and barns on his property. Peters lived elsewhere; his land was undeveloped.

Excavation of the Pond was begun in June, 1892. The area had several springs in it - a small pond had been made on Galvin's property for his livestock - and the underdrainage of the park itself afforded enough water to make a pond in that site feasible.

Excavation of the pond took about 2 years. The earth dug up was used to build Circuit Drive around the pond which is at a much higher grade. In May, 1893 a contract was awarded for construction of a stone carriage bridge designed by Shepley Rutan & Coolidge. A stone footbridge at the westerly end of the Pond was begun at that same time and both completed in the fall of 1893. S, R&C did that bridge too.

Planting of the Pond was done at about that time with great stands of beech trees on the east and west slopes of the Pond. These huge trees characterize the pond area today.

In 1889, a flock of 56 sheep was purchased by the Parks Dept. for keeping the grass of the country park meadow cut (and for bringing in a little income from the sale of wool at the same time). The sheep were housed in the old barn of John Galvin. In 1896 the sheep were moved to Franklin Field nearby and 2 years later the old Glavin House and barn were taken down.

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*Both the 1885 & 1891 plans of Franklin Park are available from the Franklin Park Coalition for $1.00.

A short flight of granite steps on a ledge overlooking the carriage bridge are all that remains of John Glavin's house.

Planting of the Park began in earnest in 1896 when the Park was substantially completed. In that year, the Parks Dept. hired John Pettigrew as the first Superintendent of Parks; up to that year the Olmsted firm and William Fischer, the Parks Department's landscape gardener (hired at the recommendation of F. L. Olmsted) had superintended the work in Franklin Park.

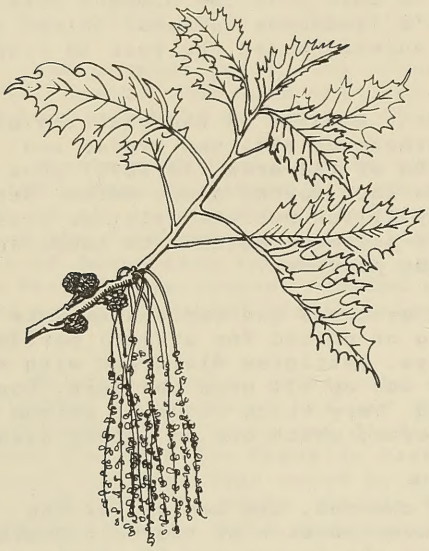
There is very little in Park Department Reports on the planting of the Scarborough Pond area except that Scarborough Hill was graded and planted in 1898 and 1899. Early photographs of the area (in 1890) show a large stand of hemlocks and white pines on Rock Morton along Morton Street which remain today. These were undoubtedly filled out with similar trees at the time the Park was built following a pattern familiar to landscape architecture of using what the land already provides.

Olmsted & Fischer were fond of using generous and various amounts of shrubbery around boulders (either existing or placed for effect) particurly in separating carriage drives from walkways. Pettigrew disagreed with this concept and had a great deal of this work dug up all over the Park. None of it exists today around Scarborough Pond. Very thick vines of poison ivy cling to the sides of the footbridge, however, which can be safely said to be <u>not</u> planned.

If Olmsted's plans for planting were changed, his design for the Pond itself was radically altered by the construction of the Golf Course in 1922 when the long area of the Pond from the footbridge to Abbottswood was filled in leaving two small sections of the Pond stranded below the rocks of the woods near Mother's Rest. The existed until the 1930's and whether they were filled in or simply silted up is not known. The area is perpetually wet, however, and water grasses and cat o'nine tails predominate which suggests that nature is simply reverting back its original condition before the pond was made.

Richard Heath
April, 1981

NORTHERN RED OAK
(Quercus rubra)

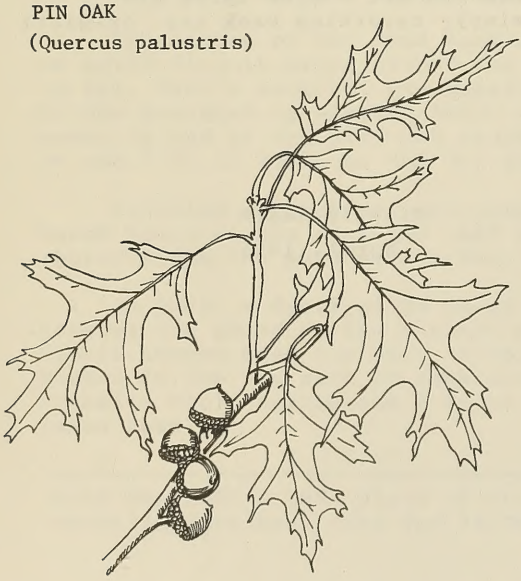


The Northern Red Oak is widely planted in Franklin Park and throughout the park and parkway system of Boston. It lines Circuit Drive and its dense canopies screen the Country Park Meadow from the traffic of Blue Hill Ave. and the American Legion Highway. The stand on the top of Scarborough Hill creates a pleasant, open shady space to view the Meadow and Schoolmaster Hill, especially on a hot summer day.

Northern Red Oak characteristically has a high, wide-spreading crown and sturdy growth. It is very tolerant of city conditions. These attributes, combined with its rapid rate of growth are what make Northern Red Oak such a good street tree. Its native range extends over most of the eastern United States.

Northern Red Oaks produce acorns when they reach 25 years of age, comparatively young for an oak. They mature at the end of their second summer at which time they are about an inch across with a shallow, flattened cup. As a member of the red oak subgenus, the Northern Red's acorns have a high tannin content. Squirrels and birds eat them only as a last resort, so you can usually find plenty of acorns under these trees.

PIN OAK
(Quercus palustris)

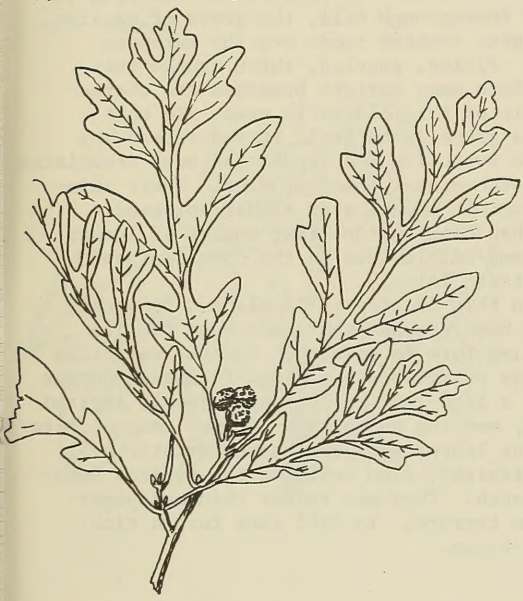


The Pin Oak is remarkable among oaks for its growth habit. While most oak's trunks divide into large branches forming broad crowns, the Pin Oak's trunk grows straight and continuous with numerous small branches, forming a narrow cylindrical crown. The upper branches are ascending, the middle branches horizontal, and the lower ones droop, sometimes sweeping the ground. The name Pin comes from the many spur-like growths along the twigs and branches. The multitude of branches along the trunks make the wood of Pin Oak so knotty that it is not valued for its timber.

Pin Oak's leaves are deeply cut into pointed lobes giving the foliage a lacy effect, especially beautiful when fall frosts turn them deep red. Its very small acorns need two summers to mature.

In the wild Pin Oaks are found only in river bottoms and along streams. Their natural range follows watercourses and river valleys, so it is surprising that they are widely planted and grow well as street trees.

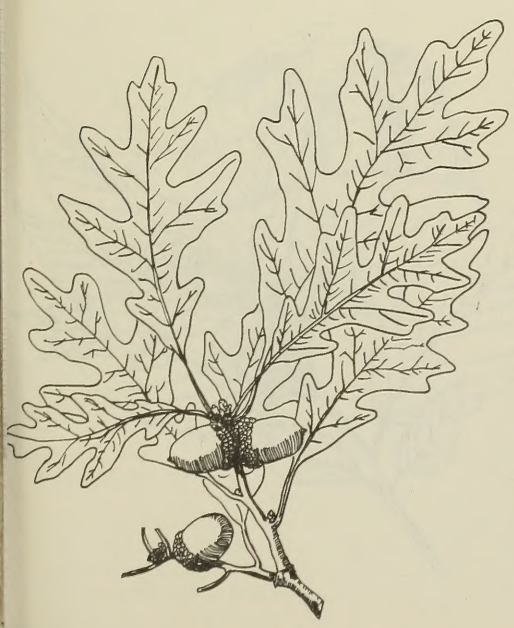
BUR OAK
(Quercus macrocarpa)



Bur Oak is not as commonly planted nor as widespread in the wild in New England as the other oaks in the Scarborough Pond area. The main range of the Bur Oak covers the Middle West and much of the Great Plains. There they form widely spaced, pure stands known as oak openings. Bur Oak's root system forms an extensive network from the surface of the soil to deep underground. This enables it to compete with the shallow rooted prairie grasses and take over the grasslands in many places.

As members of the white oak subgenus, the Bur Oak has rounded, not pointed, leaf-lobes, and acorns that mature in one summer. Species in the white oak group have generally lower concentrations of tannin, a bitter substance, in the meat of their acorns. The lower tannin amounts make Bur Oak and other white oaks the best for wildlife and human food. Acorns were a staple in the diet of many native American tribes. Bur Oak's acorns are the largest of all. They have amazing, shaggy cups which surround the nut for more than half its length.

WHITE OAK
(Quercus alba)

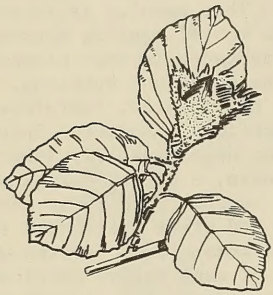


Like so many of the trees on Scarborough Hill, White Oak is a large and important forest tree throughout the eastern half of the United States. The very light color of its loose, scaly bark gives this tree both its common and scientific names. Its crown is formed of massive, often horizontal branches. White Oak's leaves are divided into irregular, finger-like lobes. They are whitish underneath and turn from dull red to brown in the fall. Dried leaves may hang on young White Oak saplings all winter, a trait shared with other oaks and the beeches.

Known and admired for their longevity and grandeur, White Oaks as old as 800 years have been reported. These tremendous, centenarian oaks are more often found in the southern part of the range. The nation's two largest grow on Maryland's Eastern Shore.

EUROPEAN BEECH

(Fagus sylvatica)



In the area where the path leaves the pond to ascend Scarborough Hill, the grove of massive, light-gray trunked trees are the European Beech. Fluted, gnarled, thick trunks that split into many upright branches are characteristic of this old world tree. To walk in this grove is to begin to understand why so much symbolism and legend has been associated with Beeches over the centuries. Their skin-like, smooth trunks seem almost animated. Beech has been an important source of lumber, fuel, and edible nuts on the continent and the British Isles.

In this country it is planted in parks and in home grounds that have room for its spreading form to develop. Several varieties are also cultivated - the red-foliaged, Copper Beech, a fern-leaf variety with deeply incised leaves, weeping and upright forms, among others. Here the leaves show the characteristic oval with straight, even veins of the typical European Beech. They are rather thin and paper-like in texture. In fall they turn a rich bronze-brown.

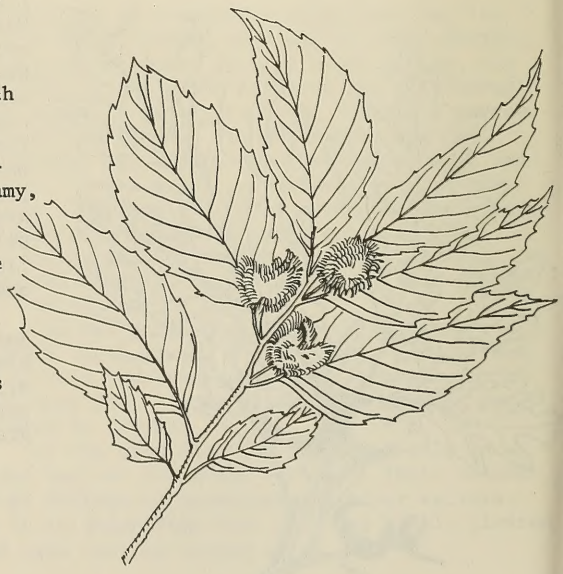
Allowing for an interesting comparison, in the woods above the European Beech grove is a single plant of the American Beech. It is similar in many attributes to the European species. However, the American's bark is a lighter shade and its trunk is usually straighter since it grows densly in forests. There are shallow, even teeth along the margins of American Beech leaves but not on the European's.

This is one of the most important and extensive forest trees of eastern North America. Its best development is attained in loamy, high humus soils. When the Middle West was being settled, Beech forests were the sites chosen to be cleared for farmland because the soil was best there.

A beech tree must reach 40 years of age before it begins to produce seed. The triangular brown nuts fall from egg-shaped burs with soft hairy spines after the first frosts in autumn. The nuts were formerly harvested for their sweet kernels and are still an important wildlife food.

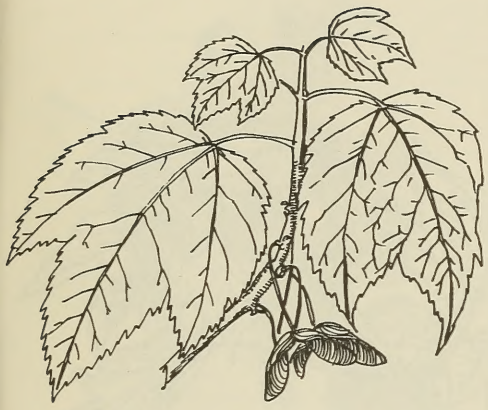
AMERICAN BEECH

(Fagus grandifolia)



RED MAPLE

(Acer rubrum)



Many of the trees planted at the sides of Scarborough Pond are species that grow naturally in similar environments - places where the soil is moist and cool, usually near water. The Red Maple is just such a tree. It is one of the commonest trees of swamps and boggy lowland areas in eastern Massachusetts. In early fall Red Maple brings special beauty to the swamps and woods when its leaves turn yellow then bright red.

Like most maples, the Red has palmately lobed leaves. The way its lobes point forward rather than outward and the whitish undersides of the leaves distinguish it from other maples.

Red Maple's scarlet flowers open in March or April, long before the leaves expand. One of the earliest trees to flower, it tells us spring is on the way, even though temperatures are still freezing and snow possible. The tiny flowers are clustered close to the twigs in such profusion that the whole tree glows brilliantly when in bloom. The smooth, light gray branches and younger parts of the trunk make a striking background for this maple's reds of fall and spring.

SUGAR MAPLE

(Acer saccharum)

Sugar Maple, a well-known and beloved tree throughout New England, can be distinguished from other maples here by the way its leaf-lobes spread out, forming a leaf that is usually broader than long. Its fruits are the typical paired winged seeds, or samaras, of maples, but they don't mature until September, while other maples mature their seeds in summer.

Sugar Maple is widely grown along streets, and in parks and town greens, for its spreading summer shade and glorious fall coloration of orange and fiery red. This tree is also outstanding in early May when its crown is suffused with the chartreuse of its delicate, dangling flowers and its emerging leaves. About a month before this flowering, before the buds begin to swell, Sugar Maples are tapped for the first flow of sap that yields syrup and sugar.

SYCAMORE MAPLE

(Acer pseudo-platanus)

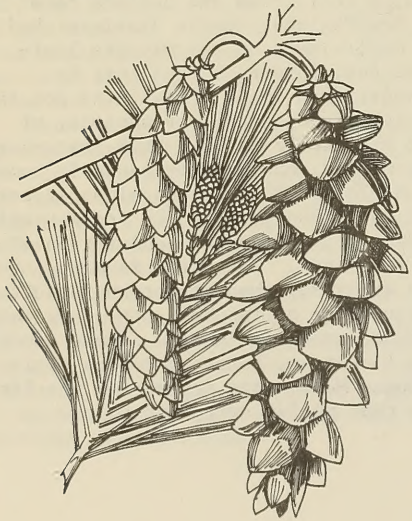
Sycamore Maple is native to Europe and western Asia. It too has been cultivated for centuries. In England it is called simply Sycamore. This and it latin name refers to the resemblance of its leaves and bark to the tree called Sycamore in this country, a tree of the genus Platanus.

Compared to other maples, the Sycamore Maple's leaves are especially thick and a very dark green. The undersides are lighter colored and covered with a soft felt of fine hairs. Its flaking bark has a mottled appearance, but is not nearly as striking as the true Sycamore's.

An outstanding attribute of the Sycamore Maple is its ability to withstand extremely acidic or basic soils and salt spray. This makes it an excellent shade and street tree for city conditions and seaside planting. It is planted extensively in Holland where land has been reclaimed from the sea.

WHITE PINE

(Pinus strobus)



The White Pine's soft look is due to its fine , flexible needles that radiate from the branchlets in clusters of five. The foliage has a bluish cast. The main branches arise from the trunk in whorls, often giving the crown a layered aspect. White Pine's elongated cones hang down and curve slightly when they open to shed seeds in late summer.

The wood of White Pine is soft, straight-grained, and light, yet strong. Its pale color is what this pine's name describes. The White Pine has been one of the most important of American timber trees since colonial times. Before the first explorers and colonists came to the Northeast, the White Pine was the most abundant and largest of trees. Vast stands extended from Maine to Pennsylvania. Trees from 150 to 200 feet in height were not uncommon. This store of useful and valuable wood became the basis of the New England economy and its disposal was an important factor in the disagreements that led to the American Revolution.

Tree farms and plantations across Massachusetts now attempt to regenerate the White Pine forests. The White Pine is a nobel tree for park and garden planting although it does not tolerate air borne pollution. The grove at the base of Scarborough Hill frames a view toward Ellicott Dale.

CANADIAN HEMLOCK

(Tsuga canadensis)

The Canadian Hemlock is the most graceful conifer native to eastern North America. Its cinnamon-brown trunk soars straight up, loaded with many drooping branches that may sweep the ground. In forest conditions it often looses the lower branches. Hemlock can be distinguished from other cone-bearers by its flattened needles which have two white bands on their undersurfaces. The whitened foliage and feathery delicacy of the twigs give a pleasant quality to the shade of a Hemlock grove.

Hemlocks have the ability to grow slowly for many years in the shade of other forest trees. Their flexible shoot tips readliy recover from damage caused by fallen limbs and trees. And so, as their other forest associates grow old and die around them, Hemlocks eventually dominate the forest. Although its wood is not valuable, Hemlock bark is high in tannins. Harvest of the bark for the tanning industry in the 19th century devastated many stands of this tree. Today Hemlocks are planted in parks and home gardens and can even be used for large hedges since they respond well to shearing.

DOUGLAS-FIR

(Pseudotsuga menziesii)

Douglas-fir is one of the world's most important timber suppliers. Exceptionally strong, its wood is highly valued for structural use. There are two varieties of Douglas-fir. The Coast variety grows west of the coast mountain ranges from British Columbia to northern California where the climate is mild and humid. In that region Douglas-fir attains it greatest size and age - trees over 200 feet tall and 500 years old are known. Inland, in the drier Rocky Mountains from Canada to Mexico, the Rocky Mountain Douglas-fir is found. Its maximum height is only 150 feet. Because it is adapted to a harsh climate more like our own, it is the Rocky Mountain variety that is cultivated in the east. The plants at Scarborough Pond exhibit the bluish-green foliage color which distinguishes them as the Rocky Mountain variety.

Douglas-fir cones are egg-shaped, about three inches long, and hang down from the branchlets. Unique to Douglas-firs are the three-pointed bracts that extend beyond the rounded cone scales.

RIVER BIRCH

(Betula nigra)

Unusual color-tones from creamy white, pink or flesh, to cinnamon-red in the shedding layers of bark are the appeal of the River Birch as a garden or park tree. Its trunk usually divides into a few large limbs which diverge and curve in pleasing irregular angles. Like all birches, its drooping branchlets are slender and graceful. They hold diamond-shaped leaves with jagged margins. The foliage turns golden yellow and falls late in the season.

The River Birch is essentially a southern tree that reaches its northernmost limits in Massachusetts and New Hampshire. True to its name, it is another species that prefers to grow along watercourses. It is especially tolerant of being flooded for part of each year and serves to prevent erosion along river banks throughout its range. River Birch's seed ripen in June, much earlier than other birches'. This allows the seed to fall into mud exposed at low water where it will germinate readily and allow the young plants to become firmly established before the next spring's high water.

GRAY BIRCH

(Betula populifolia)

Gray Birch is a vagabond tree. It hardly ever grows taller than 20 feet and forms clumps of several leaning, white trunks - almost more like a shrub than a tree. It is called a weed tree for its habit of growing in places inhospitable to other trees: rocky outcrops, highway cuts, along railroad tracks and in abandoned fields. This habitat preference has led to the names Oldfield Birch, Poverty Birch, and Poplar Birch, all used for this tree.

With its white bark it mocks the Paper Birch, a larger tree of northern forests and source for bark canoes. The bark of Gray Birch is close, it does not peel, and it has conspicuous black triangular marks at the junctions of branches and trunk.

HONEYLOCUST

(Gleditsia triacanthos)

The Honeylocust is indigenous west of the Alleghany mountains, although it has spread from cultivation in New England and elsewhere. It is planted for its light shade and rugged silhouette. Each leaf is compound, composed of a central stalk with even branches lined with pairs of small, oval leaflets. This gives the foliage mass an airy lightness.

Pinnately compound leaves are a sign that this species is a member of the large family of plants that includes beans and peas, the Legume Family. The characteristic fruit-type, called a legume, for the family is a flattened pod that splits longitudinally. Honeylocusts bear such pods. They are nearly a foot long, are dark red-brown and are twisted into an s-curve. They often remain on the trees through the winter. Honeylocust is a tree that appeals to our sense of hearing when its hard seeds rattle inside the pods on the winter-bare branches.

HORSECHESTNUT

(Aesculus hippocastanum)

Up the bank from the pond, along Circuit Drive, in a more formal setting as befits its elegance and exotic nature, is a Horsechestnut. This species is native to the Balkans of central Europe. It has been cultivated for centuries on that continent and in North America. It is a rather bold or coarse tree, for everything about it it large. Each of the five leaflets that form its palmately compound leaves is ten or more inches long. Its white flowers are massed in upright clusters nearly a foot tall. Even in winter you can spot a Horsechestnut by its large, shiny buds at the ends of stout branchlets.

Its seed gives this tree its common and latin names. In the fall, thick stalks bear several dry, thick-husked fruits. They are dark brown with short spines scattered over their surface. The husks split open to shed one or two chestnut-brown seeds, each about an inch and a half across, irregular in shape, with a beige scar covering part of the outer surface.

The tree on Circuit Drive has an odd branch, arising at a very low level on the trunk. Protected by this branch, a seed of Norway Maple has grown into a substantial tree very close to the Horsechestnut.

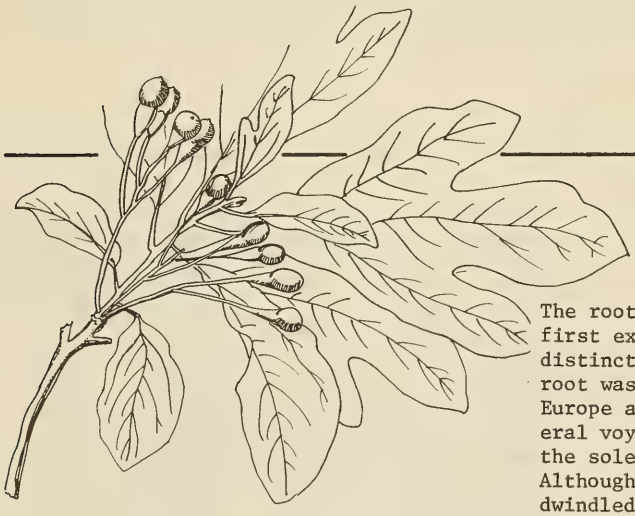
A row of Hawthorns can be found among the trees between the pond foot-path and Circuit Drive. They are Crataegus nitida, the Glossy Hawthorn. Some of them have fascinating, twisted, gnarled trunks.

There are hundreds of kinds of Hawthorns native to North America. All are medium-sized or small trees of woodland edges and clearings. As members of the Rose Family, their flowers are showy with five petals. The Glossy Hawthorn blooms in mid-May with three-inch wide clusters of white flowers. Its thick, shiny leaveschange from dark green to orange-red before falling for the winter. Its half-inch apple-like fruits are dull red and remain on the trees well into the winter when they are a pleasant sight and provide food for overwintering birds.

Of the numerous Hawthorns that could be grown in our parks and gardens, Dr. Donald Wyman, horticulturist at the Arnold Arboretum for many years, selected six that are the best for planting. Glossy Hawthorn was one of them.

GLOSSY HAWTHORN

(Crataegus nitida)



SASSAFRAS

(Sassafras albidum)

The root of Sassafras is alleged to be the first export product of New England. The distinctive aromatic oil obtained from the root was highly regarded as a cure-all in Europe at the end of the 16th century. Several voyages were made to the New World for the sole purpose of procuring Sassafras. Although demand for the plant as an export dwindled rapidly, Sassafras root and safrole, the oil, have continued to be used in this country as flavourings for beverages, candy, and medicines.

Sassafras can grow to 40 feet or more in height but it is most often seen in New England as thickets of root sprouts less than 30 feet in height. It prefers open land and is found at the edges of woods, along fences, and invading abandoned fields. Sassafras' odd leaves come in three shapes: oval, mitten-shaped, and three-lobed with the central lobe the largest. Sassafras and its relative, the Spicebush, are the only members of an essentially tropical plant family that grow in the northeast. The Laurel Family includes avocados and cinnamon.

CUCUMBER-TREE

(Magnolia acuminata)

The Cucumber-tree is a close relative of the showy, white- and pink-flowered magnolias that bloom in early spring. Its flowers are quite large but often go unnoticed because they are greenish-yellow and they open in June after the leaves have expanded. The Cucumber is a larger tree than the ornamental magnolias, attaining heights up to 90 feet. For this it makes a good shade tree. Its leaves, which are among the largest of any tree that can be grown in the northeast, are nearly a foot in length - elongated ovals with a prominent midvein. They give this tree a lush, tropical look all summer.

The name, Cucumber, refers to the fruits which vaguely resemble small cucumbers when first formed. This fruit is actually a tightly packed cluster of follicles, each containing one seed. As they mature the clusters change from green cylindars to irregular, knobby shapes. When ripe the follicles split open and their seeds, covered with a red fleshy layer, dangle from thin threads. Birds pluck the seeds, digest only the red pulp, then distribute the seeds.

TUPELO

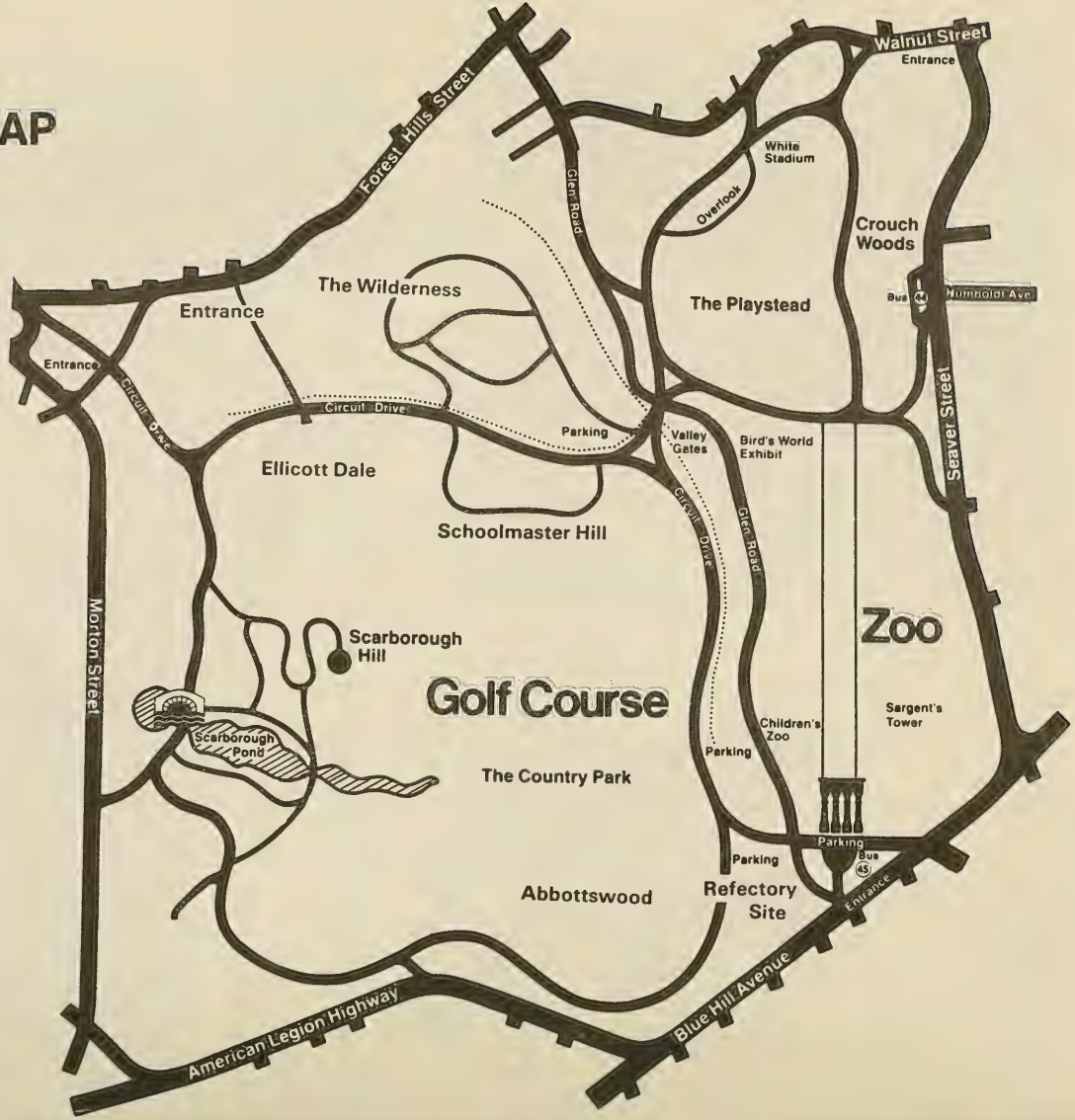
(Nyssa sylvatica)

The Tupelo is another tree with a slender crown and picturesque, drooping branches. It also grows at its best in low wet areas. There are no other species of Nyssa that grow in New England, so here Tupelo is a one-of-a-kind tree. Its leaves are lustrous, leathery ovals, pointed at both ends. Its flowers are inconspicuous, and, like hollies, male and female flowers occur on separate trees. The female flowers produce single-stoned berries in fall; two or three are clustered at the ends of long, drooping stalks. They provide food for many kind of songbirds such as the Robin, Mockingbird, Brown Thrasher, and some of the Thrushes.

Its certainly worthwhile to visit Scarborough Pond in fall to see the Tupelos' spectacular, red coloration. In the grove on the south side of the carriage bridge, across from Rock Morton, there is one tree with a larger trunk diameter than the rest. It might have been the original planting, while the others have grown from suckers from its root. Elsewhere around the pond you can find young suckers under mature Tupelos.

LOCATOR MAP

1. Red Maple
2. Pin Oak
3. Tupelo
4. Glossy Hawthorn
5. Honeylocust
6. Gray Birch
7. Horsechestnut
8. Douglas-fir
9. River Birch
10. Sassafras
11. Bur Oak
12. Sugar Maple
13. Cucumber-tree
14. Sycamore Maple
15. European Beech
16. American Beech
17. White Oak
18. Canadian Hemlock
19. Northern Red Oak
20. White Pine



FRANKLIN
PARK
GOLF COURSE
DRIVE

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